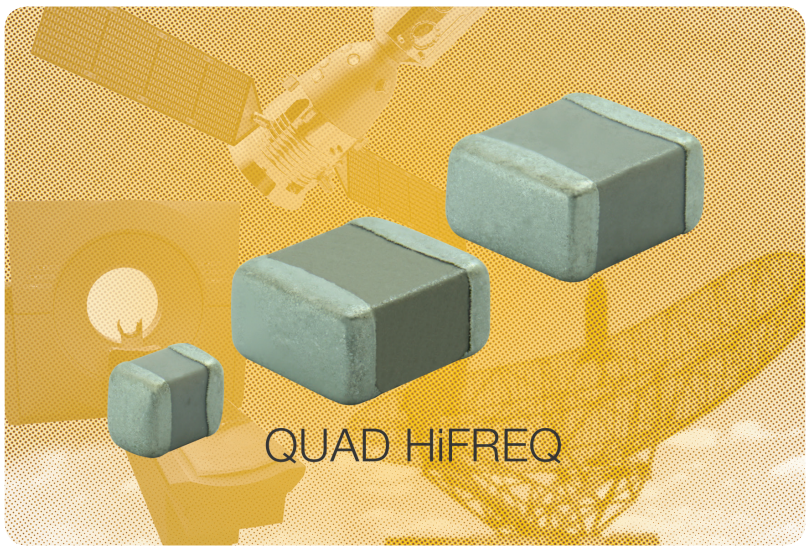
MULTILAYER CERAMIC CHIP CAPACITORS

QUAD HiFREQ

Multilayer Ceramic Capacitors for RF Applications



KEY BENEFITS

- Ultra-low ESD (0.01 Ω @ 150 kHz, 1000 pF Case size 1111)
- Ultra-high Q (> 2000)
- High serial resonant frequency (SRF) and parallel resonant frequency (PRF)
- Quad case sizes 0505 and 1111
- High voltage (250 V for 0505, 1500 V for 1111)

APPLICATIONS

- Telecom
- Medical equipment
- Military communications
- Instrumentation

RESOURCES

- Datasheet: QUAD HiFREQ - http://www.vishay.com/doc?45221
- Collateral/Video: www.vishay.com/videos
- For technical questions, contact mlccrf@vishay.com
- Material categorization: For definitions of compliance, please see http://www.vishay.com/doc?99912

Pb Available RoHS* Available HALOGEN FREE GREEN (5-2008) Available

One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components

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ELECTRICAL SPECIFICATIONS

Note

- Electrical characteristics at 25 °C unless otherwise specified

Operating Temperature: - 55 °C to + 125 °C

Capacitance Range:
0505: 1.0 pF to 100 pF
1111: 1.0 pF to 1000 pF

Voltage Rating: 25 V_{DC} to 1500 V_{DC}

Temperature Coefficient of Capacitance (TCC):
C0G (D): 0 ppm/°C ± 30 ppm/°C from - 55 °C to + 125 °C with zero (0) V_{DC} applied

Dissipation Factor (DF):
C0G (D): 0.05 % max. at 1.0 V_{RMS} and 1 MHz for values ≤ 1000 pF
C0G (D): 0.05 % max. at 1.0 V_{RMS} and 1 kHz for values > 1000 pF

Aging Rate: 0 % maximum per decade

Insulation Resistance (IR):
At + 25 °C and rated voltage 100 000 MΩ minimum or 1000 ΩF, whichever is less
At + 125 °C and rated voltage 10 000 MΩ minimum or 100 ΩF, whichever is less

Dielectric Strength Test:
Performed per method 103 of EIA-198-2-E.

Applied test voltages:
≤ 200 V_{DC}-rated: Min. 250 % of rated voltage
300 V_{DC}-rated: Min. 150 % of rated voltage
630 V_{DC} to 1000 V_{DC}-rated: 150 % of rated voltage
1500 V_{DC}: 120 % rated voltage

QUICK REFERENCE DATA

DIELECTRIC	CASE	MAXIMUM VOLTAGE (V)	CAPACITANCE	
			MINIMUM	MAXIMUM
D = NP0	0505	250	1.0 pF	100 pF
	1111	1500	1.0 pF	1000 pF

Note

- For values below 1.0 pF, contact mlccrf@vishay.com

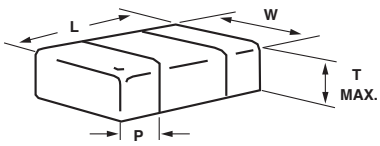
ORDERING INFORMATION

VJ0505	X	1R0	B	X	B	A	C
CASE CODE	DIELECTRIC	CAPACITANCE NOMINAL CODE	CAPACITANCE TOLERANCE	TERMINATION	DC VOLTAGE RATING (1)	MARKING	PACKAGING
0505 1111	D = NP0	Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. An "R" indicates a decimal point. Examples: 1R0 = 1.0 pF	B = ± 0.10 pF C = ± 0.25 pF D = ± 0.50 pF F = ± 1 % G = ± 2 % J = ± 5 % K = ± 10 % M = ± 20 % **Note** Details see "Selection Chart"	X = Ni barrier 100 % tin plate matte finish L = Ni barrier with tin lead plated finish min. 4 % lead	C = 200 V P = 250 V D = 300 V L = 630 V G = 1000 V R = 1500 V	A = No marking	T = 7" reel/plastic tape C = 7" reel/paper tape J = 7" reel (low quantity) R = 11 1/4"/13" reel/ plastic tape P = 11 1/4"/13" reel/ paper tape

Notes

(1) DC voltage rating should not be exceeded in application

DIMENSIONS in inches (millimeters)



CASE CODE	STYLE	LENGTH (L)	WIDTH (W)	MAXIMUM THICKNESS (T)	TERMINATIONS PAD (P)	
					MINIMUM	MAXIMUM
0505	VJ0505	0.055 ± 0.025 (1.40 ± 0.64)	0.055 ± 0.015 (1.40 ± 0.38)	0.057 (1.45)	0.004 (0.10)	0.016 (0.41)
1111	VJ1111	0.117 ± 0.028 (2.98 ± 0.70)	0.110 ± 0.030 (2.79 ± 0.76)	0.102 (2.59)	0.012 (0.30)	0.018 (0.46)

Revision: 15-May-13